Montana Board of Oil and Gas Conservation
Environmental Assessment

Operator: Chaparral Energy, LLC
Well Name/Number: BN 44-5
Location: SE SE Section 5 T10 R58E
County: Fallon **, MT; Field (or Wildcat)** Wildcat

Air Quality

(possible concerns)
Long drilling time: No, 25-35 days drilling time.
Unusually deep drilling (high horsepower rig): Triple derrick rig 1000 HP, Red River Formation test, 9350' TD.
Possible H2S gas production: Yes H2S possible.
In/near Class I air quality area: No Class I air quality area.
Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:
X Air quality permit (AQB review)
X Gas plants/pipelines available for sour gas
__ Special equipment/procedures requirements
__ Other:_____
Comments: Existing pipeline for gas in the area.

Water Quality

(possible concerns)
Salt/oil based mud: Yes oil based invert drilling fluids. Surface casing hole to be drilled with freshwater and freshwater mud.
High water table: No high water table anticipated.
Surface drainage leads to live water: Yes, nearest drainages are an unnamed ephemeral tributary drainage to North Fork Cabin Creek, about 3/8 of a mile to the northwest and about 1/2 of a mile to the south to Cabin Creek from this location.
Water well contamination: No, closest water wells are 1mile or further from this location. Surface hole will be drilled with freshwater. Surface casing will be set to 1700' and cemented to surface.
Porous/permeable soils: No, sandy silty clay soils.
Class I stream drainage: No, Class I stream drainages.

Mitigation:
X Lined reserve pit
X Adequate surface casing
__ Berms/dykes, re-routed drainage
__ Closed mud system
__ Off-site disposal of solids/liquids (in approved facility)
__ Other: _____
Comments: 1700'+/- surface casing well below freshwater zones in adjacent water wells. Also, covering Fox Hills aquifer. Adequate surface casing and BOP equipment to prevent any problems.

Soils/Vegetation/Land Use

(possible concerns)
Steam crossings: No stream crossings anticipated.
High erosion potential: No, location has a small cut of 5.8' and a small fill of 4.8', required.

Loss of soil productivity: None, location to be restored after drilling well, if well is nonproductive. If well is productive, unused portion of drillsite will be reclaimed.
Unusually large wellsite: No, large well site 260'X 330'.
Damage to improvements: Slight, surface use appears to be grassland.
Conflict with existing land use/values: Slight

Mitigation

__ Avoid improvements (topographic tolerance)
__ Exception location requested
X Stockpile topsoil
__ Stream Crossing Permit (other agency review)
X Reclaim unused part of wellsite if productive
__ Special construction methods to enhance reclamation
X Other: Requires DEQ General Permit for Storm Water Discharge Associated with Construction Activity, under ARM 17.30.1102(28).

Comments: Invert oil based drilling fluid will be recycled, cuttings will be disposed of in a lined reserve pit, completion fluids will be hauled to Class II disposal. Pit will be allowed to dry and then backfilled with subsoil. Access will be over existing county road and an access road of about 87' will be built into this location from the existing county road.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences : Closest residences are 1mile and further from this location.
Possibility of H2S: Yes, H2S possible.
Size of rig/length of drilling time: Triple drilling rig 25 to 35 days drilling time.

Mitigation:

X Proper BOP equipment
__ Topographic sound barriers
__ H2S contingency and/or evacuation plan
__ Special equipment/procedures requirements
__ Other:

Comments: 1700' is adequate surface casing cemented to surface with working BOP stack should mitigate any problems. Distance sufficient to mitigate noise.

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.
Proximity to recreation sites: None identified.
Creation of new access to wildlife habitat: None identified.
Conflict with game range/refuge management: No
Threatened or endangered Species: Species identified as threatened by the USFWS is the Whooping Crane in Fallon County. Species of concern is the Greater Sage Grouse.

Mitigation:

__ Avoidance (topographic tolerance/exception)
__ Other agency review (DFWP, federal agencies, DSL)
__ Screening/fencing of pits, drillsite
__ Other:

Comments: Private surface grasslands. Concerns expressed by Montana Fish Wildlife and Parks forwarded to Chaparral Energy, LLC, Ms. Evelyn Smith. Chaparral Energy, LLC, Ms. Evelyn Smith stated that Chaparral Energy, LLC had contacted the surface owner for location damages and had made an agreement. Sage Grouse Mitigation for Oil & Gas Operations on School Trust Lands (November 2007) requires a ¼ mile buffer around active Leks and time restrictions apply. This well is more than ¼ mile from the nearest Lek and will be drilled after June 15, 2010 and before March 1, 2011.

Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites: None identified.

Mitigation

__ avoidance (topographic tolerance, location exception)

__ other agency review (SHPO, DSL, federal agencies)

__ Other:

Comments: Private surface grasslands. No concerns.

Social/Economic

(possible concerns)

__ Substantial effect on tax base

__ Create demand for new governmental services

__ Population increase or relocation

Comments: No concerns. Development well in an existing spacing unit.

Remarks or Special Concerns for this site

Vertical Red River formation well in this spacing unit.

Summary: Evaluation of Impacts and Cumulative effects

TD 9350' Red River Formation vertical well. No long term impacts expected. Some short term impacts will occur.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): \s\Steven Sasaki
(title:) Chief Field Inspector
Date: August 4, 2010

Other Persons Contacted:

Montana Bureau of Mines and Geology, Groundwater Information Center website

(Name and Agency)

Fallon County water wells

(subject discussed)

June 5, 2010

(date)

USFWS Threatened, Endangered, Proposed and Candidate Species Montana Counties website, Fallon

County_____
(Name and Agency)
Threatened or Endangered species _____
(subject discussed)
June 5, 2010_____
(date)

Ms. Windy Davis, Montana FWP
(Name and Agency)
Greater Sage Grouse Leks in Fallon County, Montana
(subject discussed)
_June 24, 2010_____
(date)

If location was inspected before permit approval:
Inspection date: _____
Inspector: _____
Others present during inspection: _____